

ABSTRACT OF THE DISCLOSURE

Improved processes are provided for the production of alkyl aromatic compounds using zeolite catalyst(s) and for periodic reactivation in situ of zeolite catalyst(s) that have at least in part become deactivated. Processes according to this invention are typically carried out in a reaction section loaded with catalyst(s) wherein a desired alkyl aromatic compound is produced from feed aromatic and olefin compounds followed by a separation section in which the desired product is isolated and recovered. Alkylation, transalkylation, and/or isomerization reactions that occur in the reaction section are carried out in liquid phase or partial liquid phase over the said zeolite catalyst(s). At least a portion of the zeolite catalyst(s) employed in the reaction section is (are) reactivated in situ, periodically or when deemed necessary, by contacting the deactivated catalyst(s), at elevated temperature and in the substantial absence of olefin feedstock, with an aromatic stripping stream comprising the feed aromatic compound, the desired alkyl aromatic product, byproducts formed in the process, or mixtures thereof, to restore its (their) activity.